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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,061	07/30/2002	David Bailey	APV 31535	5392

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EXAMINER	
BELL, BRUCE F	

ART UNIT	PAPER NUMBER
1745	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/018,061	BAILEY ET AL.	
	Examiner	Art Unit	
	Bruce F. Bell	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-9,11-14 and 21-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-9,11-14 and 21-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 21-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The applicants instant specification does not give any examples or indications of how the gas is trapped in a frangible portion and how the size and shape of the grove are used to define a line of weakness in the metal deposited within the groove based on the gas trapped. The only recitation found in the instant specification is shown on page 10 of the instant specification, where it states that the V-groove (not the tangible portion) can be sized and shaped to trap gaseous material to define a line of weakness in the arc of the groove. This does not appear to be the same as trapping gas in a frangible portion, as the frangible portion, appears to be the copper metal. It is not clear as to whether the gas is trapped in the metal or in the groove behind the metal. Further, if the gas trapped is in the groove, then how would the metal substantially fill the entire groove, as required in dependent claim 23, and if the gas is trapped in the metal, then how is the gas trapped in the metal, since there is no disclosure, in the instant specification as presented, showing this aspect of the invention. The instant

specification only sets forth that it is the V-groove that is sized and shaped to trap gaseous material.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 4-9, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over CA 910844.

CA 910844 discloses electrolytic processing for the recovery of copper, wherein the cathode blank 10 has a bottom edge 16 is provided with an inverted V-shaped grove 18 leading substantially to the cathode blank faces. See page 6, line 25 – page 7, line 2. The V-groove 18 at the bottom edge of the cathode blank 10 causes the copper to deposit at this edge in the from of dendrites which develop in directions normal to the sides of the groove. The plane at which these dendrites meet in their growth is a plane of weakness at which the deposit can readily be broken. See page 7, lines 12-17. The plane of weakness in the bottom edge deposit eliminates any serious interference with the stripping operation. See page 8, lines 26-27.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made because even though the prior art of CA 910844 does not specifically disclose the angle of the V-groove, the patent does disclose that the copper material when separated from the cathode plate,

separates easily due to the plane of weakness in the bottom edge of the cathode plate. One having ordinary skill in the art would have the ability to perform routine experimentation in order to optimize this plane of weakness and further, the figure no. 3 of the CA patent shows the v-groove used in the bottom of the plate and it appears to be in the range as set forth in applicant's instant claims. Therefore, the prior art of CA 910844 renders the applicant's instant invention obvious for the reasons set forth above.

Response to Arguments

3. Applicant's arguments filed May 01, 2007 have been fully considered but they are not persuasive.

Applicants argue the rejection of claims 1, 2, 4-9 and 11-14 under 35 USC 103(a) as being unpatentable over CA 910844. Applicants arguments are with respect to the CA 910844 patent not specifically disclosing the angle of the V-groove and that the V-groove of the CA patent is set at approximately 50 degrees as shown by the figure 3.

The examiner disagrees with this assessment. It is clear from the teaching in the CA 910844 patent that the V-groove at the bottom edge of the cathode blank deposits the copper at an edge of the v-groove and that dendrites of the copper develop in directions normal to the sides of the groove, filling a portion of the V with the copper material and where the growth of the material from each edge of the V to the center of the V, a plane of weakness forms at which point the deposit can be readily broken. Therefore, the area of the V-groove is partially filled with copper material as in the instant invention and the center of the V-groove where the plane of weakness forms in

the CA patent, is the same as the line of weakness as set forth in the instant invention. Therefore, the CA patent even though it does not disclose the specific angles of the V-groove, does recognize that the V-groove must be filled with material and must also form a line of weakness to separate the copper sheets from the cathode plate. Applicant is relying on the Figure for there measurement of the angle of the groove. However, this is an incorrect assumption to make as figures typically are not drawn to scale and therefore, applicants can not just measure an angle of a drawing and **assume** it is to scale. Based on the teaching of the CA patent, a line of weakness and frangible area in the groove does exist. Therefore, the CA patent renders obvious the applicants instant invention as set forth above, since it is apparent that the angles of the v-groove of the patented invention must be within the ranges set forth by the applicants instant invention for the copper sheets to have a line of weakness within the V-groove, and since the material does in fact fill a portion of the area of the groove which is stated as being critical in applicants instant specification for the line of weakness to form.

Applicants arguments with respect to the present invention was no achieved with routine experimentation has been considered by the examiner, however, there does not appear to be any basis for this since the CA patent clearly sets forth that there is a line of weakness in the V-groove portion and therefore, it would appear that in order for the line of weakness to form, that some kind of routine experimentation must have been performed to have been able to achieve this line of weakness. Therefore, the rejection as set forth STANDS.

Applicant appears to be arguing that their instant V-groove divides the copper deposition when stripped to yield substantially equivalent sheets, however, it appears that the prior art shown in the CA patent will yield the same effect. Applicant is invited to show documented proof between the prior art invention and that of their instant invention to show that this is the case. Until such time, the rejection of the claims will remain.

Applicants arguments with respect to the ranges permitting separation of the deposited metal into two substantially equivalent sheets is met by the CA patent since the line of weakness is found in the apex or arc of the V-groove as set forth above. Therefore, this aspect of the instant invention is met in the patent.

Applicants arguments with respect to the groove being shaped to allow deposition of metal directly adjacent the apex of the groove has also been disclosed above wherein the CA patent discloses that the dendrite growth into the v-groove forms a line of weakness. Therefore, this aspect of the instant invention has been met by the prior art patent.

Applicants arguments with respect to the newly presented claims do not find support in the instant invention as set forth above in the 35 USC 112 – first paragraph rejection. The arguments with respect to the gas rising from below the cathode plate during deposition of metal can not even be found by the examiner, in applicants specification. Applicant is invited to show the examiner where this aspect of the instant invention is found, should this have been overlooked by the examiner.

Therefore, the rejection of the claims (previously presented and newly presented) as set forth above is rendered obvious by the prior art patent CA 910844 for the reasons set forth above.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BFB
July 9, 2007

Bruce F. Bell
Primary Examiner
Art Unit 1746